



Lesson Learnt form Facility Improvement Assessment of Water and Sanitation for Health Facility Improvement Tool (WASH FIT) Interventions in the FDMN Settlements, Cox's Bazar

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ABBREVIATIONS

EDIG	Economic Dialogue on Inclusive Growth
FDMN	Forcibly Displaced Myanmar Nationals
HCF	Healthcare Facilities
HCWM	Health Care Waste Management
HP	Health Post
IPC	Infection Prevention and Control
MEAL	Monitoring Evaluation Accountability and Learning
MHM	Menstrual Hygiene Management
MoH	Ministry of Health
NPM	Need for Population Monitoring
PHC	Primary Health Center
PPE	Personal Protective Equipment
PWD	Persons with Disabilities
REVA	Refugee Influx Emergency Vulnerability Assessment
RMNCH	Reproductive Maternal New-born and Child Health
RRRC	Refugee Relief and Repatriation Commissioner
SDG	Sustainable Development Goal
SOP	Standard Operating Procedure
WASH FIT	Water and Sanitation for Health Facility Improvement Tool
WASH	Water Sanitation and Hygiene
WHO	World Health Organization
WSP	Water Safety Plan

1. EXECUTIVE SUMMARY

Water, Sanitation and Hygiene (WASH) in health care facilities are fundamental for the provision of quality, people-centred care. Such services also reduce health care-related infections, increase trust and uptake of services, increase efficiency and decrease cost of service delivery and improve staff morale. The World Health Organization (WHO) has been providing health services to the Rohingya refugees in different Forcibly Displaced Myanmar Nationals (FDMNs) settlement in Cox's Bazar since the violence in Rakhine State of Myanmar began on 25 August 2017¹. Around 250 temporary/semi-permanent/permanent healthcare facilities were constructed inside the settlements by the side of the government's health complexes at upazila/sub-district and primary health care centers at union level. WHO has been supporting for improvement of these facilities at different scale for increasing the health coverage as well as the quality services by providing technical know-how, logistics/medicines etc.

It is imperative to say the health goals cannot be achieved without a strong focus on quality of care Water, sanitation and hygiene in health care facilities. WHO conducted a baseline assessment of the healthcare facilities in January-March 2018². The findings illustrated that the overall situation in FDMN is a potential threat to health of the refugees, hosts, staff of or any other people in that area. One third of the healthcare facilities' water quality do not match the Bangladesh standard for drinking, 22% do not have adequate functional latrines or improved toilets while half of the Healthcare Facilities (HCFs) need to improve their process of disposal or otherwise there are chances of polluting the environment considerably. Considering the dire situation to support the improvements of these health care facilities WHO in partnership with HEKS/EPER implemented Water and Sanitation for Health Facility Improvement Tool (WASH FIT) interventions in the agency run clinics in the FDMN settlements.

WASH FIT³ is a risk-based, continuous improvement framework with a set of tools for undertaking water, sanitation and hygiene improvements as part of wider quality improvements in health care facilities. It is a multi-step iterative process designed to develop, monitor and continuously improve WASH facilities and services in the healthcare facilities. WASH FIT is also in line with the strategic interest of the Health sector to allow partners to contribute and expedite the progress towards the achievement of universal health coverage and the attainment of Sustainable Development Goal (SDG) - 3 (*ensure healthy life and promote wellbeing's*) and 6 (*ensure availability and sustainable management of water and sanitation*).

During the period of August 2018 - September 2019, 21 healthcare facilities (primary and/ secondary) received WASH FIT interventions through training/capacity building and on the job training, catching and mentoring, and fact-finding visits. WASH FIT comprised of a parsimonious set of "core indicators", supplemented, where necessary, by additional indicator for monitoring water and sanitation in the healthcare facilities. Twelve months after its launch a facility improvement assessment has been conducted to extract key achievement, challenges and lessons learnt these indicators. The assessment used a combination of different assessment methods and approach, which included key informants' interview, observation and quantitative assessment to measure cumulative progresses.

Findings from the aggregated sum of 65 core and additional indicators depicts that intervened facilities increased the percentage of meeting standards from 29% at baseline to 67% at end-line. In all intervened facilities, the water domain had the highest percentage of indicators meeting standards, with an average of 67% at baseline and 81% at end-line. All facilities increased access to improved water supply on premises,

¹ BBC News (19 September 2017); [link](#)

² WHO HCF Assessment (January - March 2018); Internal Publication

³ Water and Sanitation for Health Facility Improvement Tool, World Health Organization; [link](#)

increased water storage and 2-days buffer capacity, and improved drinking water quality at the point of use. The area with the lowest percentage of indicators meeting standards was healthcare waste management, with an average of 33% at baseline and 48% at end-line. Indicators like waste segregation, sorting and sterilization significantly improved, but, infectious and sharp waste management remains challenging. Sanitation indicators showed improvements increased by separating toilets for male-female and staff-patient. Most of the facilities has a designated waste management focal person however their capacity to demonstrate Infection Prevention and Control (IPC) practices remains insignificant.

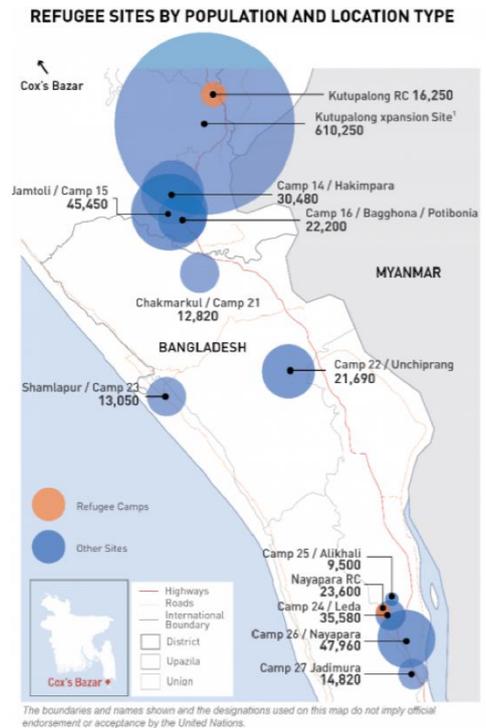
Despite promising improvement observed in most of the healthcare facilities, challenges remain due to absence of robust and sustainable financing system for the operation and maintenance of WASH facilities and services in the healthcare facility. The lack of engagement of the WASH sector/partners in the WASH in healthcare facilities process was found as a barrier for the holistic improvement of WASH facility and services in the area. Based on the lessons learnt recommendation are made to engage decision makers in the process and ensure functionality of WASH sector in response to the need of healthcare facilities. Increase supportive supervision and train IPC focal persons to ensure that proper waste management system is in place.

2. INTRODUCTION

a) CONTEXT

An estimated 920,900 Rohingya refugees (215,796 families) are in Cox's Bazar, with 708,400 cumulative arrivals since August 2017; amongst them 617,000 are in the Kutupalong Expansion site and another 256,000 in other settlements and camps.⁴ The majority of these Rohingya refugees are living in unsafe and unhygienic conditions in two mega camps (Kutupalong and Balukhali); however, there are few other clusters of small and big settlements between Teknaf and Ukhiya. The refugees of these two mega camps are facing hunger, malnutrition, infectious disease, and other medical ailments, and desperately need access to healthcare and other lifesaving support.⁵

Cox's Bazar one of Bangladesh's poorest and most vulnerable districts; the income level is well below the national average, and the district is prone to natural disasters, is highly affected by the influx.⁶ The total population in need of health services has been calculated for the 2019 Joint Response Plan (JRP) as 1.2 million people including 335,930 people of the host community.⁷ The sheer magnitude of refugee numbers has put massive pressure on all health services, and the cramped living conditions present significant public health risks. Vulnerable displaced people are dependent on limited primary and secondary health care, including Reproductive Maternal New-born and Child Health (RMNCH), communicable diseases, mental health services and psychosocial support. The existing facilities in Cox's Bazar and surrounding areas have reported an increase in patients (Health Sector Bulletin, 2019), overwhelming the current capacity and resources.



The World Health Organization/Health Sector has been providing health services to the Rohingya refugees since the violence began in Myanmar on 25 August 2017. Since then the Health Sector partners have constructed temporary/semi-permanent/permanent healthcare facilities inside the settlements by the side of the government's healthcare facilities in the host community. Currently the Health Sector has registered around 250 health care facilities in different FDMN settlement comprising Health and Family Welfare Center (MoH), Upazila Health Complex (MoH), Community Clinic (MoH), Sub-center (MoH), Health Post (fixed/mobile), Labor Room or specialized SRH facility, Primary Health Center, Satellite Clinic, Secondary Health Facility, and Other specialized healthcare facility.

WHO has been supporting for the improvement of these facilities at different scale for increasing the health coverage as well as the quality services. Major health goals cannot be achieved without a strong focus on quality of care and WASH in healthcare facilities are fundamental for the provisions of quality health care. Such services will also reduce health care-related infections, increase trust and uptake of services, increase efficiency and decrease cost of service delivery and improve staff morale.

⁴ Need for Population Monitoring (NPM), Round 12 exercise; [link](#)

⁵ Refugee Influx Emergency Vulnerability Assessment (REVA, 2019); [link](#)

⁶ EDIG Report 4, 2018; [link](#)

⁷ Joint Response Plan (JRP, 2019); [link](#)

b) BACKGROUND OF WASH FIT

WHO conducted a baseline assessment of healthcare facilities in FDMN settlements in January-March 2018 with 140 HCFs in different FDMN settlements.⁸ The assessment comprises several aspects of the health care facilities namely facility management, water, sanitation, health care waste management, hand hygiene, hygiene promotion, cleaning and disinfection and environmental management of the healthcare facility. The findings illustrated that the overall situation is a potential threat to health of the refugees, hosts, staff of or any other people in that area. The results indicated that majority of the HCFs using tube-well/hand pump water which are shallow and may have chance to get infected and around one-third of the cases it did not match the Bangladesh standard for drinking with one-in-ten cases water is found very unsafe for consumption. The result also found that one-third of the HCFs do not have adequate functional latrines also do not have any functioning hand hygiene stations along with hygiene products. Half of the HCFs need to improve their process of disposal or otherwise there are chances of polluting the environment considerably. More than two third of HCFs are found practicing open burning or other traditional approaches to dispose their sharps and infectious wastes. Only few facilities adopt a scientific way of final disposal of the medical waste. More than two-third of the healthcare facilities need to improve facility cleanliness. Considering the dire situation to support the improvements of these healthcare facilities WHO proposed WASH FIT interventions in the agency run clinics in the FDMN settlements.

WASH FIT is a multi-step iterative process designed to develop, monitor and continuously improve WASH facilities and services in the healthcare facilities. WASH FIT is an adaptation of the water safety plan (WSP) approach, which is recommended in the WHO Guidelines for Drinking-water Quality as the most effective way of ensuring continuous provision of safe drinking-water. WASH FIT extends beyond water quality to address sanitation, hygiene, health care waste and other aspects of environmental health and health care facility management and staff empowerment. It also draws upon WHO's Sanitation Safety Planning as well as WHO recommendations for infection prevention and control. WASH FIT contains a number of ready to use tools comprised of a parsimonious set of "core indicators", supplemented, where necessary, by additional indicator for monitoring water and sanitation in the healthcare facilities. The implementing steps of WASH FIT are followed by risk-based continuous improvement framework and aimed at small primary, and in some instances secondary, health care facilities in a low resource setting.



During the period of August 2018 - September 2019, WHO in partnership with HEKS/EPER⁹ tested out WASH FIT intervention in 21 agency run clinics (primary and/ secondary) in the FDMN settlements. Targeted facilities received a series of training/capacity building, on the job training, catching and mentoring, and fact-finding visits. Twelve months after its launch a facility improvement assessment has been conducted to extract key achievement, challenges and lessons learnt for the WASH FIT core indicators. The assessment used a combination of different assessment methods and approach, which included key informants' interview, observation and quantitative assessment to measure cumulative progresses.

Therefore, this paper describes the contribution of WASH FIT to the outcomes of these intervened healthcare facilities and summaries evidence for investment in these areas.

⁸ WHO HCF Assessment (January - March, 2018), Internal Publication

⁹ HEKS/EPER, [link](#)

3. ASSESSMENT METHODOLOGY

The facility improvement assessment was carried out in different HCFs; health posts and health centres having maternity services and 100+ outpatient consultations per day were considered. The assessment used a combination of different assessment methods and approaches, which included key informants' interview, observation and quantitative assessment of WASH FIT indicators.

a) DESCRIPTION OF THE HEALTHCARE FACILITIES

A total of 21 healthcare facilities reached by WASH FIT initial intervention in August 2018 were evaluated. Half of these facilities are health posts (HP) with eight primary health centers (PHC), three are secondary health facilities and one is specialized SRH facility. Of the three secondary healthcare facilities two are 50-bedded Upazila Health Complexes (MoH) in Teknaf and Ukhiya, and one is HOPE Foundation clinic in Camp 3. Among all the healthcare facilities nine are managed by national NGO's like GK, DSK, RTMI, DCH and ten are operated by international NGO's such as Save the Children, MSF, IOM, Relief International, Friendship, remaining two facilities are managed by MoH with technical support from BDRCS/ICRC.

At each Health Posts on an average eleven persons are working including three support staffs and one cleaner. 77.8% (07 out of 09) of the assessed HPs are found with one cleaner (personnel or contracted) while 22.2% cases they have two cleaners. On an average 60-80 consultations took place per day in each health posts. In the PHCs an average of 50-60 persons are working, among them ten are medical doctors/medical officers and the rest are mixture of clinical and non-clinical staffs with at least three cleaners. The average number of patients attending per health center is 100-120 per day along with 19-21 deliveries per month and 14-21 inpatients per week. The service providers are overwhelmed by the numbers of patients visiting within a limited service hour of 9 am till 4pm. The government does not allow people from "outside" to stay in the camp after dark for safety reasons.

b) DATA COLLECTION TOOLS AND METHODS

The assessment complies with a lot of visual observation work, a walkthrough checklist was used which involved looking at the environment. In-depth Interviews and discussion were conducted using semi-structured interview guides that was approved by WHO technical person(s). At each facility persons with varying roles facility-in-charge, medical doctor, medical assistant/nurse, WASH/IPC/HCWM focal person and cleaners were interviewed to capture different perspectives. Beneficiaries/patients were interviewed based on their availability. Hazard and Risk assessment quantitative data was collected using WASH FIT Indicators Assessment tool as suggested in the manual.¹⁰ HEKS/EPER team of experts MEAL Coordinator, Medical Doctor/IPC responsible person and WASH Engineer performed the data collection. Hazard and Risk assessment data was collected before the interviews, gives an opportunity to further triangulate quantitative information. At each facility the entire assessment took more than four houses to complete. The facility observations and quantitative assessment objectively identified the improvements made in the healthcare facilities hence identified perceived barrier and challenges.



Walkthrough observation



Qualitative data collection

¹⁰ Tool 2A: Indicators Assessment (pg. 35-51), Water and Sanitation for Health Facility Improvement Tool (WASH FIT) Guide; [link](#)

c) STATISTICAL ANALYSIS

Data was coded, entered, cleaned, stored and analyzed using Microsoft Excel. Categorical variables are summarized as frequencies and proportions. Quantitative end-line data was compared with base-line and cross checked with qualitative information, in-case of any discrepancies data was further investigated.

4. RESULTS

4.1. SUMMARY OF FINDINGS FROM QUANTITATIVE ASSESSMENT

According to the healthcare facility data analysis there are improvements made both at infrastructure and in observable behaviour. However, the changes did not occur in a linear way since there are other determinates that contributed to the improvement of some areas of WASH in healthcare facilities such as major water interventions by the WASH sector. Implementation of priority actions for each facility are highly dependent to the management capacities and availability of resources. WASH FIT guided the facilities by introducing minimum standards and identifying priority areas for action but did not provide any engineering solutions/hardware supports. The following section presents the results of quantitative assessment with a comparison of initial hazard and risk assessment data.

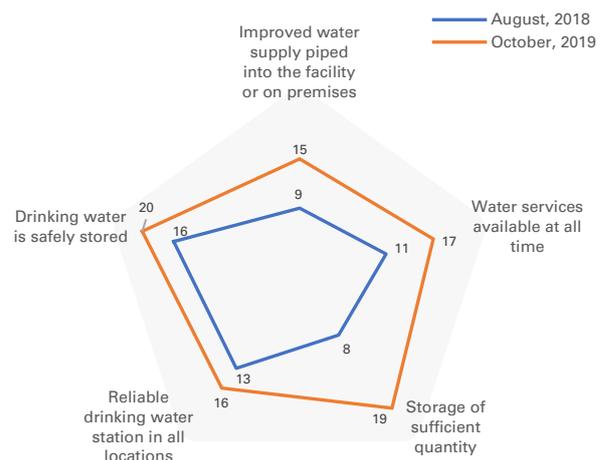
a) HAZARD AND RISK ASSESSMENT

A comprehensive assessment of hazards and associated risks of the WASH facilities and services in the healthcare facility was undertaken and compared with the baseline to determine the improvements that fits into the criteria of WASH FIT. Indicators were evaluated at each facility for the four broad areas: Water, Sanitation (including Health Care Waste Management), Hygiene (hand hygiene and environmental cleaning) and Management. The number of indicators evaluated ranged from 59 to 65 at each facility, with a possible maximum of 65 indicators.

i. WATER

In order to fulfil the minimum service level as per the WASH FIT standard requirements, the facility should have at least an improved water source present in the health care facility, the source must be accessible within the facility premises and functioning at all time. An improved water source is defined as one that, by nature of its construction or through active intervention, is likely to be protected from outside contaminants, particularly from contamination with faecal matter. This includes piped water, tube wells/boreholes, protected wells, protected springs, rainwater and packaged or delivered water.

Using WASH FIT, the main source of water for these facilities upgraded from unprotected borehole/tube-well (43%, n=9) to protected borehole with motorized pump (71%, n=15). Concerning accessibility, 81% (n=17) of the HCFs has water source on premises while in the baseline it was 52% (n=11). At the day of the assessment 95% (n=20) HCFs water was available at all locations and water storage found sufficient to meet the needs of the facility for 2 days increased practically 52% from the baseline (baseline 38% n=8, endline



90% (n=19). Drinking water station was present and accessible for staff, patients, and carers at all time and in all locations/wards for 76% (n=16) cases.

It was not within the scope of this study to do water quality testing, however, 91% (n=19) reported that water quality was tested at least two times in the reporting year but the report was not available at the time of the assessment. 86% (n=18) cases facility managers informed that water supply is regulated according to National



Motorized pump with purifier



Water Reservoir



Drinking Water Station

water quality standards, this information was cross-checked with the WASH partners in the area. 76% (n=16) of the facilities reported to treat water using membrane filters for drinking purposes only. None of the facilities practice free chlorine residual (FCR) test on regular basis. Additionally, majority reported that in general the facilities do not suffer from water shortage throughout the year, however, only few 9% (n=2) reported to suffer severe water shortage, that is due to hilly context and lower water table in the summer.

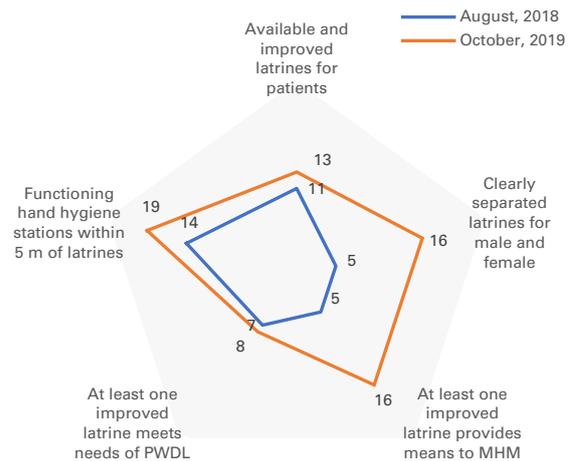
WASH FIT intervened facilities increased the percentage of indicators meeting water standards from 67% at baseline to 81% at end-line.

ii. SANITATION

For a health care facility to meet the requirements regarding the WASH FIT indicators with respect to sanitation, i.e. is capable to offer a minimum level sanitation services, the facilities must be in accordance with the standards for improved toilets that are accessible on premises. Additionally, the toilets must be usable at the moment of the assessment and offer at least one toilet that is reserved to women/girls for both staff and patient, while providing adequate installations and materials for MHM needs. Also, at least one improved toilet must be present and reserved to the staff as well as at least one facility must be accessible and usable to people with reduced mobility. Improved sanitation facilities include flush/pour flush toilets connected to a piped sewer system, septic tank or pit latrine, pit latrine with slab, ventilated improved pit latrines and composting toilets. To be considered usable, a toilet must be accessible, functional and should provide sufficient privacy for users.

WASH FIT intervened facilities are noted with expected changes, at end-line 62% (n=13) of the HCF have the required number of available and usable toilets or improved latrines for patients and staffs on premises, the

baseline was 52% (n=11). With regard to meeting gender needs, increased number of facilities (baseline 24%, n=5 and end-line 76%, n=16) facilities are providing separated toilet for females that are equipped with adequate installations and materials for MHM needs. 90% (n=19) (baseline 67%, n=14) of the facilities have functioning hygiene stations located within 5 meters of all toilets. Concerning people with reduced mobility no significant progress was observed, only 38% (n=8) of the facilities are able to meet the requirements, the reason further investigated found lack of understanding/emphasis regarding the needs of people with reduced mobility. However, it can be stated that toilet accessibility is generally guaranteed since in 95% (n=20) of the cases the toilets are no more than 30 m from consultation rooms. 81% (n=17) of the toilets dispose of adequate lighting. During the day of the assessment 48% (n=10) cases toilets are found visibly clean. Cleaners are claimed to clean the facility whenever they are dirty means more than once a day with detergent or disinfectant, this is a reported information.



Improved toilet for the person with reduced mobility



Male-female and Staff-patient separated toilets

With respect to faecal waste management the assessment shows that 62% (n=13) facilities offer twin pit offset latrine and septic tanks. In the cases of wastewater management, 71% (n=15) health care facilities greywater (rainwater or wash water) drainage system reported in place that diverts water away from the facility (no stagnant water) and also protects nearby households.



Safety tank with sock-away pit

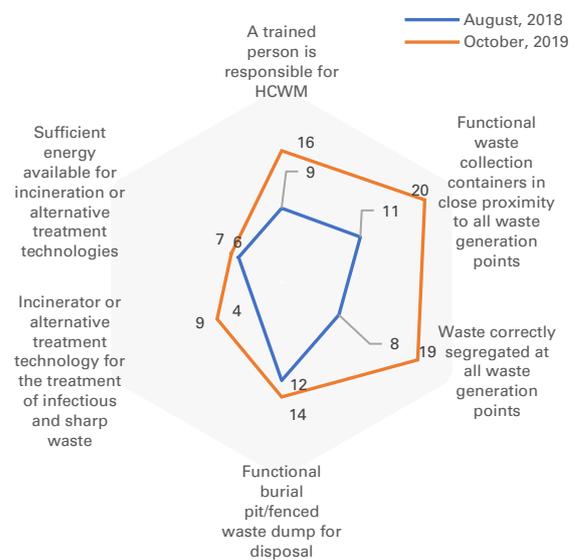
The results of the assessment with respect to sanitation revealed that 77% indicators are meeting WASH FIT standards in the endline, at baseline it was found only 33%.

iii. HEALTH CARE WASTE MANAGEMENT

For the HCF to meet the Health care waste management requirements i, the kits that enable a safe waste segregation must be present in all point of care and service areas, the sharps as well as infectious waste must be safely segregated, treated and eliminated. In order to allow a safe waste segregation, the waste must be correctly collected in labelled bins (either coloured, written or otherwise labelled) that meet the following requirements: Waste bins should not be full more than three quarters of the volume, and each bin should not contain waste other than that corresponding to its label. Also, the bins should be appropriate to the type of waste they are supposed to contain; sharps containers should be puncture-proof and leak-proof. So as to guarantee a correct elimination of infectious waste an adequate incineration on premises (two-chambered

incinerator, 850-1000°C) must be present or it is collected in order to be eliminated by a competent (professional) service or buried in a lined, protected pit.

Little increases are observed in terms of healthcare waste management. Although increased number of the facilities 76% (n=16) have at least one person responsible for the management of health care waste (baseline 43%, n=9) only one-third of them could not demonstrate IPC protocols, the competencies of IPC focal persons is a concern. In all 90% (n=19) healthcare facilities it is observed waste is correctly segregated at points of care in three labelled waste bins with lids (baseline 38%, n=8) which demonstrate increased awareness among the service providers. With respect to the treatment and/ elimination of health care waste slight improvement is observed, 67% (n=14) (baseline 57%, n=12) of the facilities are equipped with burial pit or fenced waste dump areas. Among all the facilities only 43% (n=9) have incinerator to burn infectious waste. Though some facilities do not have incinerator still managing infectious



waste in the facility and 43% (n=9) cases it is found infectious waste is burnt in a barrel incinerator. 86% (n=18) cases waste is treated onsite and 9% (n=2) cases



Storage area



Vial grinder



Incineration

waste is carried away while 5% (n=1) cases it is openly dumped without any treatment. Some wrong practices are observed such one third cases pits are not correctly designed as per WHO standard ash pit and placenta pits are designed same way, almost half of the cases food waste is dumped in the placenta pit as there is no designated spaces and ash is landfilled which does not contain prevention. It is regardless to say it is in high priority to improve capacity of IPC focal persons and ensure waste management protocol in place.

57% (n=12) of the observed facilities have functioning hand hygiene stations in the designated waste disposal area. Among all the facilities only 19% (n=4) have the capacity to manage sharp waste with a vial grinder and glass pit. WASH FIT assessment team observed 43% (n=9) of the visited facilities has fenced and protected areas for the storage of waste that is awaiting its incineration and/or removal from the facility. Therefore, the assessment revealed only 57% (n=12) of the facilities have a complete waste transporting kit and full set of PPE. In order to create a hygienic environment, it is of fundamental importance to carry out an adequate waste collection and disposal system in place. All the health care facilities have SOP (Standard Operating Procedure) for safe management of health care waste clearly visible and legible. In this sense, the facilities could simultaneously contribute to awareness raising activities and through the performance of a different practice.

The detailed results for the healthcare waste management indicate that 48% of the assessed indicators are sufficiently met WASH FIT standards from the baseline of 33%.

b) SUMMARY OF INDICATORS ASSESSMENT

On average, WASH FIT intervened facilities increased the percentage of indicators meeting standards from 29% at baseline to 67% at end-line. In all intervened facilities, the water domain had the highest percentage of indicators meeting standards, with an average of 67% at baseline and 81% at end-line. All facilities increased improved water supply on premises, water storage capacity enough for two days and improved drinking water quality. The area with the lowest percentage of indicators meeting standards was healthcare waste management, with an average of 33% at baseline and 48% at end-line. Indicators that improved included waste segregation and sorting however the infectious and sharp waste management remains challenging. Sanitation indicators showed improvement are increased by separating toilets for male-female and staff-patient. Most of the facilities has a designated waste management focal person however number of cleaning staffs remains insufficient.

4.2. SUMMARY OF FINDINGS AGAINST QUALITATIVE OBSERVATION

a) APPROACH OF WASH FIT

The process of WASH FIT started with identification of deficiencies in WASH infrastructure, services and supplies through a facility-level assessment. Based on the deficiencies identified a facility-based improvement plan is developed. Results of the initial risk-hazard assessment gave a certain credibility which led to the endorsement of the improvement plan by the management. It also led to the creation of a WASH FIT committee at facility level. This committee is holding a regular meeting providing a platform for all the facility staffs to share experiences, ideas and best practices as well as encourage individuals to take actions. Supportive supervision was provided by professionals knowledgeable on WASH FIT, Health Care Waste Management/Infection Prevention and Control and WASH to improve basic understanding of WASH FIT and support the implementation of improvement plan. During supervision visits challenges on implementation of the improvement plan was bilaterally discussed with the management for action.

b) RELEVANCE

Findings from interviews depict that WASH FIT is highly relevant for their healthcare facility. Facility managers clearly demonstrated the purpose of WASH FIT said, WASH FIT focuses on the IPC needs of a healthcare facility, improving WASH facilities and services and reducing healthcare associated risks and hazards. Facility based WASH FIT team has a realization in the crisis context where resource is very limited and capacity is a constraint WASH FIT is very appropriate, it suggests to ensure basic services in place and supply necessary hygiene and logistic inputs.

WASH FIT implemented activities showed changes in most of the facilities evident in the quantitative comparison unanimously agreed by the interviewees. It proves that having WASH FIT standards ensured in the facility was and is a priority. One of the major contributions of WASH FIT is improvement in the quality of care. For example, having improved drinking water stations at all locations, handwashing stations at all key locations and gender separated sanitation facilities increased staff satisfaction. Most of the interviewed staffs felt that using WASH FIT improved occupational safety impacted in changing staff-patient behaviour. Additionally, services such as regular water quality testing, and maintenance of WASH facilities assured that water is not infected and safe to use, which was a big concern in this context as waterborne diseases are highly prevalent.

WASH FIT is also in line with the strategic interest of the Health and WASH sectors allows partners contribute to and expedite the progress towards the achievement of universal health coverage and the attainment of SDG 3 & 6. It is also in line with the national Strategy for WASH in Healthcare Facilities and Framework for Action, drafted in 2019 by the Ministry of Health and Family Welfare (MoH&FW) of Bangladesh. The relevance of WASH FIT with the sector strategy has been established from the answering of WASH and Health partners. WASH FIT is paramount to fast track the progress towards the achievement of universal health coverage.

c) EFFECTIVENESS

Interview with facility in-charge, discussion with staffs and feedback from the community clearly identified the effectiveness of WASH FIT. The process of WASH FIT is highly dependent on the functionality of facility-based committees. Almost all of the cases committees are found functional except in few cases due to turnover of WASH FIT trained staffs. It showed the effectiveness of WASH FIT training also depicts the gap in management. These committees are holding regular meeting fortnightly or monthly basis that involve facility based clinical and non-clinical staffs. During these meeting participants collectively appraise identified problems and seek solution. The risk and hazard assessment is also periodically repeated at least two times in the reporting year. Respondents highlighted the issue of risk-based focus, collective planning, and systematic design of improvement plan, and appreciated engaging all staff and community in the process.

Almost all of the intervened facilities showed progress such as improved water supply available on premises, water storage capacity enough to meet the need for few days, improved drinking water station placed in key locations, gender separated latrines that provide MHM facility and overall cleanliness of the facility. Having WASH services in the facility affected staff attitudes, for example improved sanitation facility for women contributed to female worker retention in half of the cases. Therefore, conducting hazard and risk assessment as a team contributed to knowledge gain about WASH and IPC practices and raised awareness on the risky behaviour which resulted in positive behavioural changes such as practice of hand washing at WHO suggested key times (this is reported information) and waste segregation in at least three colour labelled bins. Two-third of the cases it is found WASH FIT team is engaging community through multiple channels for example court yard meetings, community leader meetings and joint monitoring visits. Multifaced engagements and rigorous hygiene training influenced community for behavior change. One-third of cases it is reported that patients do not throw waste and betel leaf chew while visiting the facility.

Staffs felt that including IPC roles and responsibilities in job description strategies IPC inclusiveness. However, the risk and hazard assessment identified gaps in terms of healthcare waste management. Data was triangulated in group discussions. It is found that one third of cases waste management focal persons are not appropriately trained are not able to demonstrate IPC knowledge. Therefore, facility based WASH FIT team is not connected with the expertise and experience of WASH sectors and do not know how to acquire supports for the maintenance of WASH services, which seems as a barrier in implementation of improvement plan.

d) IMPACT OR/AND CHANGE

Most of the interviewed staffs could distinguish the situation before and after using WASH FIT, changes observed in environmental cleanliness, engagement of local management and staff satisfaction. However, there is a mention of increasing demands for appropriate WASH infrastructures in the facility. Although quantitative comparison showed improvement for most of the indicators however indicators related to construction did not progress due to budget and/ space constraints also required engineering solutions. Facility based dedicated budget is also required for the operation and maintenance of WASH services. Most of the cases service uptake is delayed for at least two weeks and they must depend on the decision of senior management. One of the major constraints identified is that there is no robust financing system emplaced and

financial allocation is determined with donors in the initial base year of the budget that did not change proportionately which led to the budget constraint to implement WASH FIT facility improvement plan. Despite certain limitations it can be stated that using WASH FIT guided the facility in the right direction. Two third of the interviewees cited that there is a lower incidence of communicable diseases among the staffs after using WASH FIT and the hygiene situation is now better than before.

e) SUSTAINABILITY

The intervention of WASH FIT is inherently sustainable. Interviewing facility staffs demonstrates that using WASH FIT enhanced staff attitude, behaviour and skills and increased staff realization that WASH/IPC is a fundamental prerequisite for the quality of care. Half of the facility-based managers mentioned that there cannot be effective infection prevention and control without adequate WASH services in the healthcare facility. Using WASH FIT increases the capacity of healthcare facilities to prevent healthcare associated infections. It is also noted high degree of staff ownership that is demonstrated by the efforts to keep the water and waste management system running despite the constraints in the refugee context and other funding challenges. Almost all the staff felt that using WASH FIT helped to improve readiness for outbreaks and resilience to climate change-related adverse events such as drought. For example, increasing water storage, improving sanitation facilities, grey water management and environment cleanliness helped them to face recent diarrhoea and malaria outbreaks. Personal hygiene and management of healthcare waste contributed to the protection from communicable diseases, mentioned by the two third of the clinical staffs.

Despite certain improvements some of the issues were highlighted in the interviews for example to ensure sustainability WASH FIT should address some higher-level components such as engagement of decision makers and WASH sector in the process. During interview half of the cases it is found that senior management is not familiar with the WASH FIT and not much engaged in the process. Another issue is raised by the facility managers that WASH in HCF is not fully considered in the planning and designing stage. Also, there is no robust financing system emplaced. Staffs felt that financial allocation did not change proportionately as per the execution of implementation plan, for example; it was not budgeted to install submersible pump, repair/increase number of toilets, to install ash pit, placenta pit and incinerator. Some of the facilities face challenges from the management to replenish supply of cleansing materials, procuring PPE and cleaning kits. Capacity building, fund and context specific engineering solutions are required for the construction of waste zone and management. Many reported that engineering supports are not timely available as WASH sector is not engaged in the process. Results would be differing if the WASH sector is involved in the process. Also, it is highlighted the need for a centralized system for the disposal of infectious waste as many of the facilities do not have the capacity.

5. BARRIERS AND CHALLENGES

- Failure rates for water systems are high, due to lack of electricity or back-up power supply systems. One third of the cases water infrastructures are not functional or often suffer major problems. Considering the issue of water label goes down in hilly areas in summer better technologies are needed.
- Lack of engagement of the WASH sector/partners in the WASH in HCF process is a barrier, engineering supports are not timely available for construction and maintenance of WASH facilities.
- Construction of waste management system at facility level did not progress due to budget and space constraints. Moreover, there is no centralized system for the disposal of infectious waste. Fund and context specific engineering solutions are required for the safe management of health care waste in the facility.
- Financial and Material resources across all facilities was a barrier to implement some parts of the improvement plan. This included financing for infrastructure and procuring materials such as promotional posters, colored bins, bio-hazard bags for waste segregation and at least two personal protective equipment.
- There is no robust financing system emplaced. Financial allocation did not change proportionately as per the execution of implementation plan.
- Hierarchical culture of the organization is also challenging. This barrier limited the uptake of some key prevention measures for example organizing periodical hazard and risk assessments, IPC training and having a qualified designated IPC focal person etc.
- Some participants identified cleaners' workload as barriers. By improving the physical environment, more patients may seek care at the healthcare facility which lead to increase in workload.

6. RECOMMENDATIONS AND WAY FORWARD

Based on the lessons learnt it was recognized the importance of engaging decision makers and WASH partners in the process. Regarding that a lesson learnt workshop has been organized where recommendations are made for the future improvements, workshop report is annexed (annex III).

- Coordinate and align WASH FIT with multiple actors, including the RRRC and Inter-sector agencies. More engagement with WASH actors may aid the WASH FIT process. This includes ensuring adequate water supply during droughts, water quality monitoring, and infrastructure design according to national standards.

- Understand what can be utilized within the existing system, what needs to be strengthened, and use the learning from the assessments to work with the divisional and local management and government to develop an appropriate plan of action that builds on and improves WASH FIT in the existing health system also advocate for the prioritization of WASH FIT.

- Develop, test and evaluate low-cost, sustainable WASH solutions targeted towards different levels of HCFs. Document costing process and contextualize findings and disseminate information about technologies.

- Construction of a clustered or centralized system for the disposal of healthcare waste. Funds and context specific engineering solutions are also required for the safe management of infectious waste in the facility.

- There is a need for increase supervision. The evaluation demonstrated that targeted facilities, when provided with training and supervision make visible and measurable improvements.

7. ANNEXTURE

a) ANNEX I: LIST OF HEALTHCARE FACILITIES

UID	LOCATION	ORGANIZATION	OPR DATE	FACILITY TYPE	SERVICES	CONSULTATION/DAY	IPD/WEEK
HF_501	Camp 14	DCHT	January 2018	PHC	OPD, IPD, NVD, DTC, Lab, Emergency	190-210	10
HF_253	Camp 15	DSK	Decemebr 2017	HP	OPD, ANC-PNC, Emergency	110	
HF_103	Camp 11	Friendship	n/a	Birthing Hut	OPD, SRH, NVD, Emergency	120-130	
HF_007	Camp 1E, CC	GK	September 2017	HP	OPD, ANC-PNC, Emergency	200	
HF_112	Camp 11	GK-MI	November 2017	HP	OPD, ORT Corner, ANC-PNC, Emergency	140-150	
HF_594	Nayapara RC	GK-UNHCR	September 2017	PHC	OPD, IPD, DTC, Emergency	70	5
HF_339	Kutupalong RC	GK, RHU	August 2017	PHC	DTC, OPD, SRH	80-90	25
HF_022	Camp 2	GK, RTMI	March 2018	PHC	OPD, IPD, SRH, NVD, DTC, Lab, Emergency	120-150	2
HF_602	Camp 26	GRC	February 2018	HP	OPD, ANC-PNC, ORT, Emeregency	80-90	
HF_029	Camp 4	HOPE	December 2017	Secondary	Secondary	250-300	35-40
HF_200	LEDA	IOM	August 2016	PHC	OPD, IPD, SRH, FP, PSS, TSFP, NVD, DTC, Emergency	350-400	13-22
HF_034	Camp 3, AA19	IOM	November 2018	PHC	OPD, IPD, SRH, NVD, DTC, Lab, Emergency	250	11-17
HF_093	Camp 9	IOM	November 2017	PHC	OPD, IPD, NVD, ORP, PSS, ANC-PNC, EPI, Emergency	150-200	1-2
HF_056	Camp 20 Ext.	Medair	January 2019	HP	OPD, ORT Corner, ANC-PNC, Emergency	100	
HF_311	Ukhiya	MoH	n/a	UHC	Secondary	220-250	50
HF_566	Teknaf	MoH	n/a	UHC	Secondary	250-300	85
HF_531	Palong Khali	MSF	January 2018	PHC	OPD, IPD, NVD, DTC, Lab, Emergency	160	45
HF_070	Camp 8	Relief Int.	September 2017	HP	OPD, ANC-PNC, Emergency	110-120	
HF_003	Camp 1W	RTMI	January 2018	HP	OPC, SRH, PSS	150	
HF_178	Camp 18 SS	SCI	October 2017	HP	OPD, ANC-PNC, Emergency	50-70	
HF_038	Camp 4E	SCI	September 2017	HP	OPD, ANC-PNC, Emergency	60-70	

b) ANNEX II: ISSUES IDENTIFIED FROM OBSERVATION

AREA	CASES	ISSUES
Water	06 out of 21 cases →	Water source is located at an unsafe distance within 15-20 m of an unsealed latrine or latrine proximity is uphill
	09 out of 21 cases →	Borehole seal is unsanitary
	07 out of 21 cases →	Floor of the pump house is faulty or cracks in the cement floor permeable to water
	13 out of 21 cases →	No chlorination or chlorine is not present at the sampling tap
	09 out of 21 cases →	Absence of backup power disrupt water supply
Sanitation	08 out of 21 cases →	Leakage from pipes, no septic tank and/ soakaway pit or latrine is within a proximity of water source
	11 out of 21 cases →	Patient latrines are noted by presence of waste, visible dirt, excreta and insects
	13 out of 21 cases →	lack of understanding /emphasis regarding the needs of people with reduced mobility
	09 out of 21 cases →	Toilets do not have a bin for disposal of waste
	16 out of 21 cases →	No separated drainage system in place for the management of infectious water
Healthcare Waste Management	07 out of 16 cases →	Waste management focal persons are not able to demonstrate IPC knowledge
	06 out of 14 cases →	Pits are not correctly designed as per WHO standard (ash pit and placenta pit have the same design)
	09 out of 21 cases →	Infectious waste is burnt with general waste in the barrel incinerator in a low temperature
	08 out of 09 cases →	No thermometer/apparatus found to measure temperature in the incinerator
	10 out of 21 cases →	Food waste is dumped in the placenta pit

c) ANNEX III: WORKSHOP REPORT

BACKGROUND

Water and Sanitation in Health-care Facilities is a fundamental prerequisite to attain national health goals and the Sustainable Development Goal (SDG) 3 (ensure healthy life and promote wellbeing's) and 6 (ensure availability and sustainable management of water and sanitation) goals. In line with the strategic interest of health sector, WHO in partnership with HEKS/EPER is rolling out the implementation of Water, Sanitation and Hygiene Facility Improvement Tools (WASH FIT) in the agency run clinics in the FDMN settlements of Cox's Bazar district.



Of paramount importance it was recognized that improving health services can only be made by recognizing the broader determinants of WASH outcomes in the health system. Engaging WASH and Health sector partners in the WASH FIT process has its own positive impact. During the period of September-October 2019 a facility improvement assessment was conducted that extracted key achievements, challenges and lesson learnt of WASH FIT implementation. The assessment identified the gaps in

WASH services in the Health system and summarized evidence for investment in these areas. Hence, WHO and HEKS/EPER organized a workshop for WASH and Health coordinators aimed to improve quality of WASH and Healthcare services in host and FDMN settlement by 2020.

WORKSHOP ORGANIZATION

The workshop was organized into four different formats to maximize interaction and learning consisted of keynote presentations by resources persons, followed by brief contribution from expert panelists and discussions. The workshop was organized into 06 sessions;

Sessions	Activity/Topic	In facilitation
Opening Session	Setting up participants	All participants
Session 01	Opening remarks by the senior delegates of WHO and Unicef	Simon Ssentamu Kaddu (WHO) Aynul Huda (Unicef)
Session 02	Introduction to WASH in HCF and evolution in this context	Bizuneh Assefa Wassie (WHO)
Session 03	WASH in Healthcare Facility statistics and Indicator Efforts	Bizuneh Assefa Wassie (WHO)
Session 04	Practical aspects of implementing WASH FIT: Lesson Learnt	Shahnewaz Morshed (HEKS/EPER)
Session 05	Challenges and Opportunities in Mainstreaming and Implementing WASH FIT	Shahnewaz Morshed (HEKS/EPER)
Session 06	Nexus between WASH and Health sectors: Identify possible areas of improvement	Health and WASH Coordinators
Closing session	Wrap-up and closing remarks	All Participants

PARTICIPANTS

A total of 23 coordinators/senior level management staffs attended the workshop comprising of 21 different national and international agencies, as below;

SL	Name of the organization	Sector representation	Number of participants attended
1	UNHCR	WASH Coordinator	01
2	Practical Action	WASH Coordinator	01
3	NGO Forum for Public Health	WASH Coordinator	01
4	Terre des hommes Foundation	Health Coordinator	01
5	International Rescue Committee	Health Coordinator	01
6	BRAC	Health and WASH Coordinator	01
7	Save the Children	Health Coordinator	01
8	Bangladesh Red Crescent Society	Health Coordinator	01
9	Relief International	Health Coordinator	01
10	PHD	Health Coordinator	01
11	RTMI	Health Coordinator	01
12	FRIENDSHIP	Health Coordinator	01
13	ICRC	Health Coordinator	01
14	ACF	WASH Coordinator	01
15	GoB District Hospital	Health Coordinator	01
16	RRRC	Health Coordination	01
17	Unicef	WASH Coordinator	01
18	International Organization for Migration	Health Coordinator	01
19	WHO	Health and WASH Coordinator	02
20	Oxfam	WASH Coordinator	01
21	HEKS/EPER	Health and WASH Coordinator	02
TOTAL	21 Organizations - 10 International NGOs - 04 UN Agencies - 06 National NGOs	- 12 Health Coordinators - WASH Coordinators - 05 Health and WASH Coordinators	23 participants

THE WORKSHOP RECOGNIZED THE FOLLOWING CHALLENGES AND GAPS

- The participants highlighted that access to water is a challenge. In many parts of Teknaf water shortages and rationing are regular phenomena.
- The mainstreaming and implementation of Healthcare Waste Management is at the beginning stage due to limited capacity, financial resources and information.
- Lack of clear responsibility for appropriate handling and disposal of waste resulted in poor management of healthcare waste. Many addressed the issue waste management focal points are not adequately trained and their activities are not being monitored.
- Lack of alignment between sectoral strategies acts a barrier to integrate WASH into healthcare facilities. Participants admitted a significant number of health partners do not have capacity to carry out the essential WASH and/ IPC functions.
- There is no robust financing system emplaced. Financial allocation is determined with donors in the initial base year of the budget that did not change proportionately which led to the budget constraint to implement WASH FIT facility improvement plan.
- Some highlighted the issue of lack of coordination among WASH and Health actors. Engineering supports are not timely available that hindered uptake of water and sanitation services in many cases.

THE KEY RECOMMENDATIONS OF THE WORKSHOP ARE

- Coordinate and align WASH FIT with multiple actors. More engagement with WASH partners may expedite the process of WASH FIT implementation for example adequate water supply during dry seasons, routine monitoring of water quality and sanitary inspection, and designing WASH infrastructure for the healthcare facility.
- Understand what can be utilized within the existing system, what needs to be strengthened, and use the learning from the assessments to work with the divisional and local management and government to develop an appropriate plan of action that builds on and improves WASH FIT in the existing health system also advocate for the prioritization of WASH FIT.
- Develop, test and evaluate low-cost, sustainable WASH solutions targeted towards different levels of HCFs. Document costing process and contextualize findings and disseminate information about technologies.
- Construction of a clustered or centralized system for the disposal of healthcare waste. Funds and context specific engineering solutions are also required for the safe management of infectious waste in the facility.
- There is a need for increase supervision. The evaluation demonstrated that targeted facilities, when provided with training and supervision make visible and measurable improvements.
- Capacity Development of IPC supervisors aiming to ensure professionalism and following the trainings IPC supervisors should be subsequently assigned to provide supervision and support healthcare facilities for the healthcare waste management.